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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,001	05/26/2006	Jens Elmers	WUE-48	7248
7590	06/18/2009		EXAMINER	
Thomas J Burger Wood Herron & Evans 2700 Carew Tower 441 Vine Street Cincinnati, OH 45202-2917			OREILLY, PATRICK F	
			ART UNIT	PAPER NUMBER
			3749	
			MAIL DATE	DELIVERY MODE
			06/18/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/581,001	ELMERS ET AL.	
	Examiner	Art Unit	
	Patrick F. O'Reilly III	3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 26 May 2006.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-10 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-10 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 26 May 2006 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 5/26/2006; 1/14/2009; 2/2/2009.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application
 6) Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). Certified copies of the priority documents have been received.

Information Disclosure Statement

2. The information disclosure statements (IDSs) submitted on May 26, 2006, January 14, 2009, and February 2, 2009 are acknowledged. The submissions are in compliance with the provisions of 37 C.F.R. § 1.97 and 37 CFR § 1.98 and, therefore, the references therein have been considered.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "E", "F", "G", "H", and "16" (refer to sole figure).

4. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not

accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The disclosure is objected to because of the following informalities:

The specification fails to include any section headings, such as: “Background of the Invention”, “Brief Summary of the Invention”, “Brief Description of the Drawing(s)”, and “Detailed Description of the Invention”.

On page 1 of the specification, in line 7, the examiner believes that a comma should be inserted immediately after the phrase “According to the latest prior art”.

On page 4 of the specification, in lines 22, 23, and 28, reference characters “C, D” are used to denote the “air conveyed through the second line branching 26, 28”. However, in the sole figure, reference characters “C, D” are used to denote the “air conveyed through the first line branching 24”. The examiner believes that the reference characters corresponding to the “air conveyed through the second line branching 26, 28” should be “E, F, G, H” in lieu of “C, D”.

On page 5 of the specification, in line 30, reference characters “C and D” are used to denote the “air blown out in the floor region 18”. However, in the sole figure, reference characters “C, D” are used to denote “air blown out near the roof region 20”. The examiner believes that the reference characters corresponding to the “air blown out in the floor region 18” should be “E, F, G, H” in lieu of “C and D”.

On page 6 of the specification, in line 6, reference characters “C and D” are used to denote the “air blown out in the floor region 18”. However, in the sole figure, reference characters “C, D” are used to denote “air blown out near the roof region 20”. The examiner

believes that the reference characters corresponding to the “air blown out in the floor region 18” should be “E, F, G, H” in lieu of “C and D”.

Appropriate correction is required.

Claim Notes

6. Claims 1-10 utilize the transitional phrase “...characterised in that...”. The examiner has considered the phrase “...characterised in that...” to be an open-type transition, which is equivalent to “comprising” or “including”. See MPEP § 2111.03.

Claim Objections

7. Claim 1 is objected to because of the following informality: in line 3 of this claim, the “sites closer to the passengers” are improperly designated by parenthetical reference characters “(C, D)”. The examiner believes that the “sites closer to the passengers” should be denoted by reference characters “(E, F, G, H)”. Appropriate correction is required.

8. Claim 2 is objected to because of the following informality: in line 1 of this claim, the “sites closer to the passengers” are improperly designated by parenthetical reference characters “(C, D)”. The examiner believes that the “sites closer to the passengers” should be denoted by reference characters “(E, F, G, H)”. Appropriate correction is required.

9. Claim 3 is objected to because of the following informality: in line 1 of this claim, the “sites closer to the passengers” are improperly designated by parenthetical reference characters “(C, D)”. The examiner believes that the “sites closer to the passengers” should be denoted by reference characters “(E, F, G, H)”. Appropriate correction is required.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-5 and 8-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

12. Claim 1 recites the limitations “sites remote from passengers” and “sites closer to passengers” in lines 2 and 3, respectively. The use of these limitations renders this claim indefinite because it unclear where the “sites remote from passengers”, or where the “sites closer to passengers”, are located in a freight compartment which does not accommodate passengers, thereby rendering the relative location of the two sites mentioned in claim 1 unclear when the method is applied to a freight compartment. If the intent of claim 1 is to recite a method that can be used for either a freight compartment or an aircraft cabin, then the language used to describe the locations of the two sites must apply to both such uses.

13. As to claims 4, 8, 9, and 10, the use of the term “propulsion fuel air” renders each of these claims indefinite. The term “propulsion fuel air” does not appear to have a well-recognized meaning in the art of aircraft ventilation and air-conditioning. Consequently, one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For the purpose of an examination on the merits, the examiner has considered the term “propulsion fuel air” to mean “propulsion *bleed* air”.

14. Claims 2-3 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being dependent on rejected base claim 1.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. **Claims 1-8 and 10** are rejected under 35 U.S.C. 102(b) as being anticipated by UK Patent No. GB 954,342 (“GB ‘342”). The specification and the drawings in the GB ‘342 reference disclose all of the elements recited in **claims 1-8 and 10** of this application.

17. Specifically, in regard to claim 1, the GB ‘342 reference discloses all of the claimed elements, including: introducing air at sites remote from passengers (e.g., in the upper region of the aircraft cabin 13, served by air distribution nozzles 27) that is at a temperature different from air that is introduced at sites closer to passengers (e.g., near the floor 14 of the aircraft cabin, served by floor airflow openings 20 and side vents 21) in the cabin (the air distributed by upper nozzles 27 is controlled by thermal control member 28 and can be cooled to lower temperature using air conditioning unit 22, whereas the air distributed by lower vents 21 is controlled by an independent thermal control member 30 and comprises of hot bleed air). Refer to GB ‘342, Figures 1-3; page 1, lines 75-92; and page 2, lines 1-124. Therefore, because all of the elements in claim 1 of this application are disclosed by the GB ‘342 reference, this claim is rejected in accordance with 35 U.S.C. 102(b).

18. In regard to claim 2, the GB ‘342 reference further discloses that the sites closer to passengers (e.g., near the floor 14 of the aircraft cabin, served by floor airflow openings 20 and side vents 21) are located nearer the floor (14) of the aircraft cabin (compartment 13) than the

sites remote from passengers (e.g., in the upper region of the aircraft cabin 13, served by air distribution nozzles 27). See GB '342, Figure 2 and page 2, lines 14-49. Thus, the GB '342 reference meets the language of this claim.

19. In regard to claim 3, the GB '342 reference further discloses that the sites (e.g., near the floor 14 of the aircraft cabin, served by side vents 21) closer to passengers are located on the floor (14) of the aircraft cabin (the bottom edges of side vents 21 are located on the floor 14 of the aircraft compartment 13, airflow openings 20 are disposed through floor 14) and the sites (e.g., in the upper region of the aircraft cabin 13, served by air distribution nozzles 27) remote from passengers are located in the upper region (see Fig. 2) of the aircraft cabin (13). Refer to GB '342, Figure 2 and page 2, lines 14-49. Consequently, the GB '342 reference also meets the language set forth in claim 3.

20. In regard to claim 4, the GB '342 reference further discloses that the introduced air is fresh air, in particular temperature-controlled fresh air, and contains propulsion bleed air (the air supplied by air distribution nozzles 27 is fresh air in the form of bleed air, which can also be temperature-controlled by means of air conditioning unit 22). See GB '342, Figure 2 and page 2, lines 1-10; also see section 112 rejections above. Therefore, the GB '342 reference also meets the language set forth in this claim.

21. In regard to claim 5, the GB '342 reference further discloses that the introduced air also contains recirculated air (the air supplied by floor airflow openings 20 and side vents 21 comprises recirculated, secondary air that has been entrained from the aircraft compartment 13 as denoted by airflow arrows 13a in Fig. 4). Refer to GB '342, Figures 3-4 and page 2, lines 14-23. Thus, the GB '342 reference meets the language set forth in claim 5.

22. Moreover, in regard to claim 6, the GB '342 reference discloses all of the claimed elements, including: at least a first air line branching (beginning with duct 7, which in turn, feeds duct 25 and overhead manifold 26) that leads to region (e.g., upper region of the aircraft cabin 13, which is served by air distribution nozzles 27) of the aircraft cabin (compartment 13) remote from passengers, and at least a second line branching (beginning with duct 6, which in turn, feeds underfloor manifold 15) that leads to regions (e.g., near the floor 14 of the aircraft cabin, which are served by side vents 21) of the aircraft cabin (13) closer to passengers, wherein means (e.g., air conditioning unit 22, bypass valve 24, and reverse acting valve 9) are provided in order to feed air at different temperatures simultaneously through the first and second line branchings (7, 6). Refer to GB '342, Figures 1-3; page 1, lines 75-92; and page 2, lines 1-124. Therefore, because all of the elements in claim 6 of this application are disclosed by the GB '342 reference, this claim is rejected in accordance with 35 U.S.C. 102(b).

23. In regard to claim 7, the GB '342 reference further discloses that the first line branching (beginning with duct 7, which in turn, feeds duct 25 and overhead manifold 26) leads into the upper region (e.g., upper region of the aircraft cabin 13, which is served by air distribution nozzles 27) and the second line branching (beginning with duct 6, which in turn, feeds underfloor manifold 15) leads into the floor region (14) of the aircraft cabin (compartment 13). See GB '342, Figure 2 and page 2, lines 14-49. Thus, the GB '342 reference meets the language of this claim.

24. In regard to claim 8, the GB '342 reference further discloses that the first line branching (duct 7) is connected on the one hand to at least one feed line (e.g., discharge duct of air conditioning unit 22) for temperature-controlled fresh air, and on the other hand to at least one

feed line (e.g., bypass duct 23) for hot propulsion bleed air. Refer to GB '342, Figure 2 and page 2, lines 39-46; also refer to section 112 rejections above. Consequently, the GB '342 reference also meets the language set forth in claim 8.

25. In regard to claim 10, the GB '342 reference further discloses control means (e.g., bypass valve 24, jet pumps 12) for controlling the ratio of the propulsion feed air to fresh air and recirculated air in the first and second line branchings (in the first duct branch 7, warm bleed air in bypass duct 23 is mixed with fresh, conditioned air from air conditioning unit 22 by adjusting bypass valve 24; in the second duct branch 6, warm bleed air (primary air) is mixed with entrained, recirculated air (secondary air) at jet pumps 12). See GB '342, Figures 2-3 and page 2, lines 14-46; also see section 112 rejections above. Therefore, the GB '342 reference also meets the language set forth in this claim.

Claim Rejections - 35 USC § 103

26. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

27. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over UK Patent No. GB 954,342 ("GB '342") in view of Scheffler et al. (US 6,306,032). These two references, when considered together, teach all of the elements recited in **claim 9** of this application.

28. In particular, claim 9 of this application is obvious when the GB '342 reference is viewed in light of Scheffler et al. As described above, the GB '342 reference discloses all the elements

of base claim 6, the claim upon which this claim depends. However, claim 9 of this application further discloses that the second line branching is connected on the one hand to at least one feed line for temperature-controlled fresh air and/or recirculated air, and on the other hand to at least one feed line for hot propulsion fuel air. The GB '342 reference discloses that the second line branching (duct 6) is connected to an engine bleed air feed line (see Fig. 2), but it does not expressly disclose that the second line branching (duct 6) is also connected to at least one feed line for temperature-controlled fresh air and/or recirculated air. Scheffler et al., although, teaches air-conditioning system a plurality of zones (e.g., freight hold space 4, sleeping cabin 17, sleeping cabin 18) within an aircraft, having a first line branching (first supply air line 31) that is connected to both a feed line (discharge line connected to air mixer unit 1) for temperature-controlled fresh/recirculated air and a feed line (first trimming air line 71) for hot propulsion feed air, and a second line branching (second supply air line 32) that is connected to both a feed line (discharge line connected to air mixer unit 1) for temperature-controlled fresh/recirculated air and a feed line (first trimming air line 72) for hot propulsion feed air so that the temperature of the supply air can be adjusted after it leaves the air mixer unit (1). Refer to Scheffler et al., Figure 2; column 4, lines 34-63; and column 9, lines 15-34. Therefore, when the GB '342 reference is viewed in light of Scheffler et al., it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the aircraft air-conditioning system of the GB '342 reference by connecting the second line branching (duct 6) to both a feed line for temperature-controlled fresh/recirculated air and an engine bleed air feed line, as taught by Scheffler et al., in order to enable the temperature of the supply air delivered to the floor region (14) to be adjusted.

Conclusion

29. See attached form PTO-892 for additional pertinent prior art, which was not directly relied upon in this action.
30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick F. O'Reilly III whose telephone number is (571) 272-3424. The examiner can normally be reached on Monday through Friday, 8:30 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven B. McAllister can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patrick F. O'Reilly III/
Examiner, Art Unit 3749

/Steven B. McAllister/
Supervisory Patent Examiner, Art Unit 3749